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AUTHOR Simon, Mark

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ABSTRACT

The 1964 Wilderness Act was legislated to protect and maintain a portion of the nation's remaining wild areas as they were during pre-settlement times. In part, the intent was to provide the opportunity for primitive forms of recreation in surroundings where wilderness can be experienced on its own terms. However, overuse and related resource degradation have resulted in the loss of the primeval character of many wilderness areas, decreasing the opportunity for solitude. Solitude is specifically mentioned in the Wilderness Act as a critical component of wilderness. A study explored the effects of wilderness experience programs (WEP) on feelings of purism, privacy, and tolerated encounters. Pre- and posttests were administered to 42 college students who participated in a short-term WEP (about 5 days) and 64 participants in a long-term WEP (10-plus days). Pretest data did not show a relationship between participant concern for solitude and the number of encounters participants would tolerate and still consider their trip a wilderness experience. However, posttest data indicated that following a field experience, participant concern for solitude was significantly related to unwillingness to tolerate encounters with others in the wilderness. These results suggest that WEPs emphasizing wilderness education may effectively influence course participants to become a more educated wildland user constituency and to support use limits and other resource protection measures. (TD)

The Influence of Selected Wilderness Experience Programs in Changing Participant Attitudes toward Wilderness Purism, Privacy, and Tolerated Encounters (a pilot study)

Mark Simon

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Mark Simon
SUNY Potsdam
simonm@potsdam.edu

Introduction

The 1964 Wilderness Act was legislated to protect and maintain a portion of the nation's remaining wild areas as they were during pre-settlement times. In part, the intent of this legislation was to provide the opportunity for primitive forms of recreation in surroundings where wilderness can be experienced on its own terms. However, many wilderness users do not experience wilderness as it is described in the Wilderness Act. Overuse and related resource degradation have resulted in the loss of the primeval character of many wilderness areas that most recreationists frequent. This is not meant to imply that the majority the 105 million acres of wilderness in the national wilderness preservation system are highly impacted through recreational use; wilderness hiking and camping tends to be concentrated along high-use corridors that often lead to popular destinations (Hammitt & Rutlin, 1995). Indeed, the vast majority of wilderness use is day-use and confined to trips generally lasting no more than two days (Hendee & Dawson, 2002).

Within these high-use corridors, encounters with others may be frequent, assumed by some researchers (e.g., Watson, 1995) to decrease the opportunity for solitude. Solitude is specifically mentioned in the wilderness act as a critical component of wilderness. Regardless, wilderness users who frequent these areas report high satisfaction levels and achieved solitude despite crowding and the related resource degradation (Manning, 1999; Hammitt & Rutlin, 1997).

Theoretically, the optimal number of encounters for wilderness backpacking among wilderness users would be zero encounters (Shelby, Vaske & Donnelly, 1996). Normative theory suggests that wilderness users, as a group, share norms (such as encounters) that dictate expectations for social behavior and ecological impacts in wilderness. As intuitively appealing as this suggestion is, results of empirical studies challenge its general veracity. Hall & Shelby (1996) found that many wilderness users appear to lack norms that dictate acceptable social and ecological conditions in wilderness settings.

Contrary to the past research, there are wilderness users (labeled *purists*), who hold values that are consistent with the wilderness act. Purists place high value on solitude and tolerate fewer encounters. A purism scale was developed to objectively judge which constituency of wilderness users should be considered during the wilderness management planning process. The intent of the Purism Scale was to identify individuals whose attitudes aligned with the 1964 Wilderness Act (e.g., purists). Once individuals were identified who held purist attitudes (via the Purism Scale) the intent was to use their input in the planning process to help to define baseline conditions for managing wilderness recreation experiences.

Wilderness purists are more sensitive to crowding and its associated impacts than other wilderness users (Shelby & Shindler, 1992; Shindler & Shelby, 1993). Solitude is an important sub-dimension of the Purism Scale because concern for solitude should be strongly associated with perceptions of crowding; that is, those who are highly concerned about solitude should be very sensitive to crowding. Scales have been developed to measure solitude, but research in this area is still not well refined (Watson, 1995). For example, the Purism Scale (Shafer & Hammitt, 1995) measures solitude primarily as a function of spatial relationships (i.e., solitude as the opposite of crowding). The psychological meaning(s) that solitude has for the individual have also been investigated under the broader concept of privacy, which is comprised of the following domains: cognitive dimensions, solitude, intimacy, anonymity, and reserve (Hammitt, 1982). This multidimensional construct (of privacy) is associated with both a place and a state of freedom where one can choose one's level of interaction with others. The Privacy Scale was included in this study as measure of solitude in addition to the solitude dimension of the Purism Scale.

It is not clear how purist attitudes come about--whether purists are attracted to these sub-groups or if purism results from participation in these groups. Can purist attitudes toward resource conditions be acquired as a result of experience, wilderness or otherwise, or are those who already possess purist attitudes simply attracted to sub-groups that share similar concerns? Implicit in the philosophies of most wilderness experience programs (WEPs) is that exposure to wilderness conditions and wilderness instruction indeed does affect the participant's attitudes towards wilderness.

WEPs have been documented to have profound and lasting influences on people's lives (Ewert & McAvoy, 2000); information and education are thought to be the most effective means for influencing change in wilderness user attitudes and behaviors (Hendee & Dawson, 2002). It is reasonable to assume, therefore, that WEPs which focus on minimum impact camping skills and environmental ethics may influence how participants perceive social and ecological impacts to wilderness.

This pilot study focused on two broad questions. First, do purism, privacy, and tolerated encounters change significantly for participants in WEPs? Second, do WEPs facilitate a coherent relationship between solitude and the number of encounters participants will tolerate and still consider their experience a *wilderness* experience? Before the field experience, participant attitudes toward solitude and crowding may not be coherent (i.e. there is no relationship between concern for solitude and encounters with others). However, following the field experience it was hypothesized that there would be a strong and coherent relationship between concern for solitude and encounters with others.

Methods

This exploratory pilot study was conducted as a two-group pre-test/post-test quasi-experimental design. Two clusters were used as a convenience sample of WEP groups. Both clusters shared the same treatments; wilderness education that involved field time in a wilderness area or an area that closely resembled the attributes of wilderness. Cluster one contained participants who were enrolled in a short-term (2-3 days) backpacking course at a northeastern liberal arts college, culminating in a weekend backpacking trip. Cluster two contained long-term (10+continuious days) wilderness

education programs. All long-term groups sampled were Wilderness Education Association Affiliates with the exception of a group from Minnesota.

The two cluster groups formed the basis for comparison between groups. For instance, pre-tests were compared to determine if there was a difference between groups prior to the field experience. The post-test was administered immediately following the course to assess the influences that the course had on participants. The survey was implemented between May 2002 and November 2002. A total of 212 usable surveys were analyzed; 106 pre and post tests. Of the surveys analyzed, 42 (39.6%) participated in a Short Term WEP and 64 (60.4%) participated in a Long Term WEP.

Preliminary Data Analysis

Preliminary analysis of the data was conducted to determine the reliability of Purism and Privacy subscales. According to Dawson and Hammitt (1996), Cronbach Alpha's of .60 or higher is considered acceptable for inclusion as a dimension in the scale. Below, Table 1 outlines the subscales and their respective Cronbach Alpha's. Cronbach Alpha's for each of the subscales from two previous studies (Dawson & Hammitt, 1996 and Shafer & Hammit, 1995) are included for comparison.

Table 1.
Privacy and Purism Subscale Reliability

Scale and sub-dimensions	Cronbach's Alpha WEP Pilot Study	Cronbach's Alpha Established Scales
Privacy		Dawson & Hammitt (1996)
Natural Environment	.93	.79
Cognitive Freedom	.86	.82
Intimacy	.87	.78
Individualism	.71	.79
Purism		Shafer & Hammitt (1995)
Human Impact	.92	.81
Natural Features	.82	.82
Solitude	.90	.87
Management Confinement	.64	.75
Primitive Travel	.89	.68
Management Aided Travel	.87	.73

Next, a series of separate regression equations were conducted to determine if the Privacy scale and/or the solitude dimension of the Purism Scales served as a predictor of the dependent variable (DV) Tolerated Encounters. Tolerated Encounters were reported in three locations, at the campsite, trail, and trailhead. The preliminary analysis revealed that Privacy did not significantly contribute to the linear relationship between Tolerated Encounters at the campsite, trail, or the trailhead locations. Therefore, the Privacy Scale was excluded from further analysis. However, a significant relationship was found

between the Solitude dimension of the Purism Scale and Tolerated Encounters, therefore, this subscale served as the independent variable (IV) for further analysis.

Following each bivariate linear regression analysis, a multiple regression analysis was conducted to determine the influence Experience Use History (EUH) had on the linear relationship between Solitude (IV) and Tolerated Encounters (DV). Experience Use History was measured in this analysis as a single item on the questionnaire--the longest time spent on a single trip. The preliminary analysis revealed that EUH did not significantly contribute to any of the linear relationship between Tolerated Encounters at the campsite, trail, or the trailhead locations. Therefore, EUH was excluded from further analysis.

Data Analysis

The first analysis examined pre-test Tolerated Encounters at the campsite as predicted by Solitude. According to this analysis, .11% ($R^2 = .11$) of the variability within Tolerated Encounters at the campsite was explained by the level of Solitude. However, these results were not significant at the .05 level, meaning there is no relationship between the level of Solitude and the number of encounters tolerated at the campsite for participants prior to a WEP. Additional preliminary analysis of pre-test data revealed that in addition to campsite encounters, Tolerated Encounters at the trail or the trailhead locations were not significantly related to levels of Solitude.

The next series of analyses examined post-test Tolerated Encounters (TE) at the campsite, along the trail and at the trailhead as predicted by Solitude (n = 20). Figures 1, 2 and 3 below, provide a graphic display of the scatter plots.

Figure 1.

Max Tolerated Encounters at Campsite as Predicted by Concern for Solitude (Purism Scale) (Post-Test)

(0= not at all concerned, 6= extremely concerned)

Figure 2.

Max Tolerated Encounters along Trail as Predicted by Concern for Solitude (Purism Scale) (Post-Test)

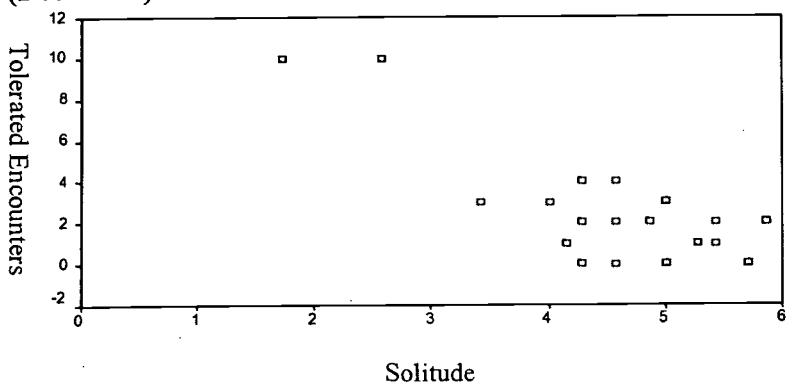


Figure 3.

Max Tolerated Encounters at Trailhead as Predicted by Concern for Solitude (Purism Scale) Post-Test

In addition to scatter plots, regression analysis examined post-test Tolerated Encounters (TE) at the campsite, along the trail, and at the trailhead as predicted by Solitude (n = 20). According to this regression analysis, 62% ($R^2 = .62$) of the variability in TE *at the campsite* was explained by the level of Solitude. These results are significant at the .001 level. The next regression analysis examined TE at the *along the trail* as predicted by Solitude. According to this analysis, 64% ($R^2 = .64$) of the variability TE at the campsite is explained by the level of Solitude, significant at the .001 level. The final regression analysis of this pilot data applied a regression model to examine TE *at the trailhead* as predicted by Solitude. According to this analysis, 29%

($R^2 = .286$) of the variability TE at the campsite is explained by the level of solitude, once again significant at the .001 level. Table 2 below, provides summary of the results.

Table 2.
Regression Analysis with Solitude as Independent Variable

Dependent Variable	R^2
Pre-test Tolerated Encounters at Campsite	.114
Post-test Tolerated Encounters at Campsite	.628**
Post-test Tolerated Encounters along the Trail	.640**
Post-test Tolerated Encounters at the Trailhead	.286*

*p<.05 **p<.001

Between Groups Analysis

The next series of analysis were conducted to determine if the field experience (treatment) affected the short-term and long-term groups differently. The first comparison examined mean solitude scores between short-term and long-term groups. Solitude was measured as the mean of the solitude dimension of the Purism scale (Shafer and Hammitt, 1995) and consists of the items listed in table 3.

Table 3.
Solitude Measured as the Solitude Dimension of the Purism Scale

The amount of solitude your group experiences
The amount of noise heard in the area that comes from other wilderness visitors
The distance between your campsites and the campsites of others in the area
The number of groups that pass within sight of your camp
The total amount of time that your party has in the area without seeing or hearing anyone else
The number of vehicles you see at a trailhead
The number of groups you pass during the day while traveling

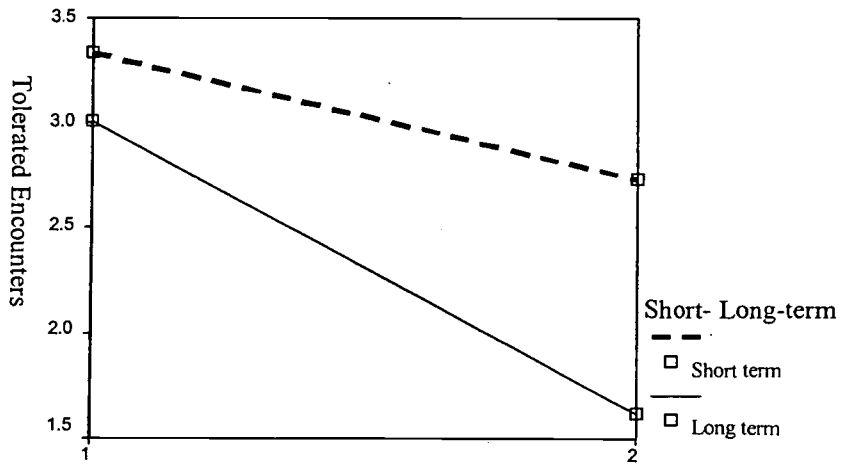
An ANOVA was conducted to determine if there were significant differences within subjects (pre/post within the same group) and between subjects (short-term/long-term comparison between groups). According to this analysis, there were no significant pre/post differences between group mean solitude scores.

A second ANOVA was conducted to determine if there were significant differences within subjects (pre/post) and between subjects (short-term /long-term) in the mean number of Tolerated Encounters. Figure 4 provides a graphic display of this comparison.

Figure 4.

Comparison of Mean Tolerated Encounters

Between Short-term and Long-term Groups



(1= pretest, 2= post test)

According to this analysis, there were significant pre/post differences within groups (p = .023) in the number in the mean Tolerated Encounters. The above graph is also highly suggestive that the long-term group experienced more change than the short-term group, however the between group pre/post results were not significant at the .05 level.

Discussion

Results of the Cronbach Alpha's analysis of the Purism and Privacy subscales suggest that the reliability levels are comparable to previously published studies (e.g., Dawson & Hammitt, 1996; Shafer & Hammitt, 1995). These results suggest that the scales, as they exist on the pilot survey, exhibit acceptable levels of reliability. Comparisons between short-term and long-term groups did not yield significant change in Purism, Privacy and Tolerated Encounter scores. However, the results are highly suggestive that there are significant differences between the amount of change in Tolerated Encounters following participation in a WEP (see figure 1.4). Not all

participants indicated a numeric value for Tolerated Encounters, which resulted in a small sample size for this comparison (short/term n=10, long-term n=30). More data is necessary to determine if there is a significant difference between long term and short term Wilderness Education Programs in regards to Tolerated Encounters.

Pretest data did not exhibit a coherent relationship between participant concern for solitude and the number of encounters participants would tolerate and still consider their trip a *wilderness* experience. These findings are consistent with past studies (e.g., Hollenhorst, Frank & Watson, 1994; Patterson & Hammitt, 1990). However, post-test data indicated that following a field experience, participant concern for solitude was significantly related to encounters with others in wilderness among course participants.

These results suggest that the field experience influences participants to become a more educated user constituency. One could surmise that these participants have a strong working understanding of where their preferences for management fit in terms of type of experience they seek. If those who score as Purists (on the solitude dimension of the Purism Scale) support and seek low-density wilderness recreation experiences, and in contrast, those who are non -purists seek and support more developed backcountry experiences, recreation users will seek and support experiences that are consistent with the legislative intent of how the resource should be managed.

Conclusion

The lack of a coherent relationship found in past research between concern for solitude and perceptions of crowding has created a dilemma for wilderness managers who are legally-mandated to manage wilderness for solitude. In many instances, groups that consider themselves wilderness advocates will not support use limits in wilderness areas when managers are concerned about over-use (Cole, 2001). In fact, some user groups have gone as far as to challenge management plans that call for limiting use on the basis that past research has not demonstrated a clear and consistent relationship between concern for solitude and perceptions of crowding (Zion Canyoneering Coalition, 2003).

The findings of this study reveal partial support for the contention that WEPs emphasizing wilderness education effectively influence course participants to become a more educated wildland user constituency. Specifically, WEP participants have attitudes and expectations toward the resource that are consistent with the legislative intent of the Wilderness Act. This is an important finding because, according to this research, WEPs *do* influence purist attitudes within participants and these programs will help to change the overall response of wilderness users to changing wilderness conditions. For instance, those who place a high value on solitude and are sensitive to crowding may avoid wilderness areas that are over used. In addition, they may also be inclined to support use limits and other measures proposed by wilderness managers to protect the resource. These issues are especially relevant today because the numbers of WEPs are dramatically increasing and managers and educators question whether or not these programs are a blessing or a bane for wilderness management (Friese, Hendee & Kinziger, 1998, Gager, 1998). More data and additional analysis will be necessary to further examine the relationships suggested by this study.

Sources Cited:

Cole, D.N. (2001). Visitor use density and wilderness experiences: A historical review of research. In: Freimund, W.; Cole, D.N., comps (2001) Visitor use density and wilderness experience: proceedings; 2000 June 1-3; Missoula, MT. Proc. RMRS-P-220. Ogden, UT; U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Dawson, C.P., & W.E. Hammitt (1996). Dimensions of wilderness privacy for Adirondack Forest Preserve hikers. *International Journal of Wilderness, 2,* 37-41.

Ewert, A. & McAvoy, L. (2000) *The effects of wilderness settings on organized groups: A state of knowledge paper.* In Proceedings: Wilderness Science in a Time of Change. Missoula, Montana May 23-27.

Friese, G.T., Hendee, J.C. & Kinziger, M. (1998) The wilderness experience program industry in the United States: Characteristics and dynamics. *The Journal of Experiential Education, 21,* 40-45.

Gager, D. Hendee, C. Kinziger, & Krumpe, E. (1998). What managers are saying and doing about wilderness experience program, *Journal of Forestry.* 96, 33-37.

Hall, T & Shelby, B. (1996). Who cares about encounters? Differences between those with and without norms, *Leisure Sciences 18, 7-22.*

Hammitt, W. (1982). Cognitive dimensions of wilderness solitude. *Environment and Behavior,* 14, 478-93.

Hammitt, W.E. & Rutlin, W. (1995). Use encounter standards and curves for achieved privacy in wilderness. *Leisure Sciences,* 17, 245-62.

Hendee, J.C., & Dawson C.P. (2002). *Wilderness Management* (3th ed.). Golden Colorado: Fulcrum Press.

Hollenhorst. S., Frank, E., & Watson A. (1994). *The capacity to be alone: Wilderness solitude and growth on the self.* In International Wilderness Allocation, Management, and Research: Proceedings of a Fifth World Wilderness Congress Symposium, Hendee, J.C., & V.G. Martineds. Tromso, Norway, September 1993. Ojai, Calif.: International Wilderness Leadership Foundation.

Manning, R.E. (1999). *Studies in Outdoor Recreation.* Corvallis, Oregon: University Press.

Patterson, M.E. & Hammitt W.E. (1990). Backcountry Encounter Norms, Actual Reported Encounters, and Their Relationship to Wilderness Solitude. *Journal of Leisure Research.* 22, Pp.259-275

Shafer, C.S. & Hammitt, W.E. (1995). Purism revisited: Specifying recreational conditions of concern according to resource intent. Leisure Sciences, 17, 15-30.

Shelby, B & Shindler, B. (1992). Interest group standards for ecological impacts at wilderness campsites. *Leisure Sciences,* 14, 17-27.

Shindler, B. & Shelby, B. (1993). Regulating wilderness use: An investigation of user group support. *Journal of Forestry,* 91, 41-44.

Shelby, B., Vaske, J., Donnelly, M. (1996). Norms standards and natural resources. Leisure Sciences, 18, 103-123.

Watson, A. (1995). Opportunities for solitude in the Boundary Waters Canoe Area Wilderness. *Northern Journal of Applied forestry,* 12, 12-18.

Zion Canyoneering Coalition (2003, February). Research on Solitude, Wilderness, and Management Choices. Retrieved March 7, 2003 from the World Wide Web: http://www.zioncanyoneering.org/research.htm

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